CEGASA

Energy you can trust

E/Bick LV

Installation Manual

Original manual
July 2025

Control of revisions

VERSION	DATE	DESCRIPTION
July 2025	31.07.2025	Content update

Table of Contents

1 INTRODUCTION

Read this manual carefully to ensure the energy storage Battery System is properly installed. All these operations must be performed by a qualified and authorised technician.

1.1 PURPOSE OF THE MANUAL

This is the complete manual for the installation of the energy storage system made up of the following products.

Table 1-1. Glossary.

Term	Definition
Module	LV EBick Module.
Master	Master Box MCS unit.
PDC	PDC distribution and protection cabinets.
Inverter	Hybrid inverter.
Tower	Group of Modules stacked high.
Battery System	Group of Modules connected in series and controlled by a Master Box MCS unit.
EViewer web app	Battery system monitoring platform.
CEGASA Cloud	Cloud platform.

1.2 CONFIDENTIALITY

All the information provided by CEGASA ENERGIA SLU by virtue of this manual and any data or aspects that may become known as a result thereof will be absolutely confidential, and may not be provided to third parties or used for any purpose other than that intended, without the prior and express written authorisation of CEGASA ENERGIA SLU, (hereinafter CEGASA).

1.3 SAFETY DURING ASSEMBLY

The Battery System has been designed and tested in accordance with international safety standards. Nonetheless, to avoid personal injury and property damage and ensure long-term operation of the system, please read this section carefully and follow all recommended safety measures.

1.3.1 General

- The area around the Battery System must be kept clear and free of combustible materials, petrol and/or other flammable vapours and liquids.
- Any air inlet or outlet in the room must be clear and free of obstacles.
- There must be no signs of deterioration in any component of the Battery System. Contact CEGASA with any questions.
- Do not access the interior of the Modules, or manipulate any internal components.
- Do not use or manipulate the Battery System components if your feet or hands are wet.
- Ensure that the output and input connection cables are not short circuited.
- Ensure that there is no short-circuit between positive and negative terminals at any point.
- Follow the specifications proposed by CEGASA for the power and communications cables of the installation.
- Do not use, handle, install or store the Battery System in locations with high humidity levels or subject to adverse weather conditions.

1.3.2 Mechanical

- The floor must be capable of holding the weight of the entire Battery System made up of one or multiple towers. The floor must be in optimal condition.
- Due to the weight of the Modules (>90 kg), they must be installed by several people.
- Do not stack more than 4 Modules per tower, according to the instructions set out in this manual.
- Brace/fix the tower to the wall at a height according to the instructions set out in this manual.
- Always connect the Modules to each other (front/rear plates).

1.3.3 Fire prevention measures

- Ensure there is a carbon dioxide extinguisher nearby.
- Do not use water to extinguish the fire.
- Full protective clothing and self-contained breathing apparatus are required for firefighters to extinguish the fire.

1.3.4 Anti-electrolyte measures

If the Battery System loses electrolyte due to a malfunction thereof, avoid contact with the leaking liquid or gas.

Electrolyte is corrosive and contact can cause skin irritation and chemical burns. In case of exposure to this substance, proceed as follows:

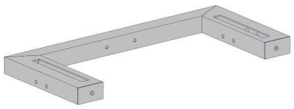
- Inhalation: Evacuate the contaminated area.
- Contact with eyes: Rinse eyes with cold water for 15 minutes.
- Contact with skin: Carefully wash the affected area with cold water and soap.
- Ingestion: Induce vomiting.

In any of the above cases, seek immediate medical assistance.

2 COMPONENTS

2.1 BASE WITH FEET (109286)

CBP1

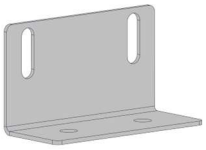


Base X1

CBP2

Front base fixing bracket X2

CBP3



Right-angle floor fixing bracket X1

CBP4

Rear base fixing bracket X2

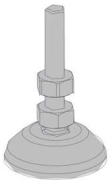
CBP5

Module fixing bracket X2

CBP6

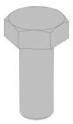
Right-angle wall mounting plate X2

CBP7



Base levelling feet X4

CBP8



TR DIN 933 M10x30 X2

CBP9

TR ISO 7380 M6x20 X4

CBP10

TR ISO 7380 M6x16 X4

CBP11

TR ISO 7380 M6x12 X6

CBP12

AR DIN 125 M10 X2

CBP13

AR DIN 127 M10 X2

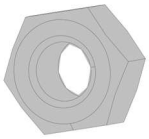
CBP14

AR DIN 125 M6 X4

CBP15

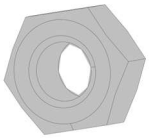
AR DIN 127 M6 X4

CBP16



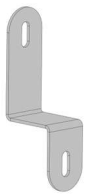
TU DIN 934 M10 X2

CBP17



TU DIN 934 M6 X4

2.2 BASE WITH CASTERS (109512)

CBR1 	Base + casters	X1
CBR2 	Front base fixing bracket	X2
CBR3 	Rear base fixing bracket	X2
CBR4 	TR ISO 7380 M6x12	X4
CBR5 	TR ISO 7380 M6X20	X4

2.3 LV EBICK MODULE (110023)

CM1

Module X1

CM2

Side connection plate X3

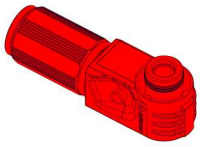
CM3

External CB RJ45 X1

CM4

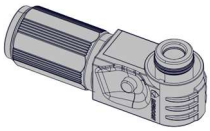
TR ISO 7380 M6x12 X6

CM5



Positive female module connector X1

CM6



Negative female module connector X1

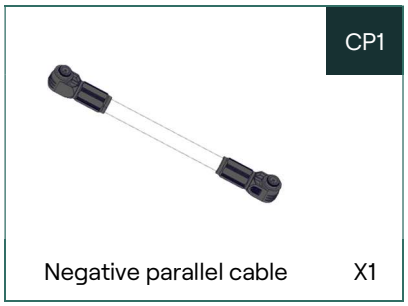
CM7

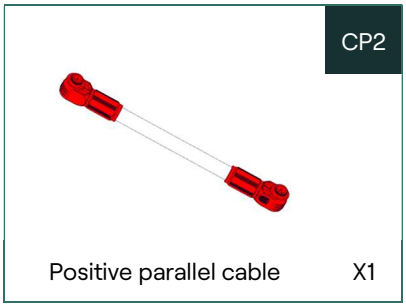
Negative connector cap X2

CM8

Positive connector cap X2

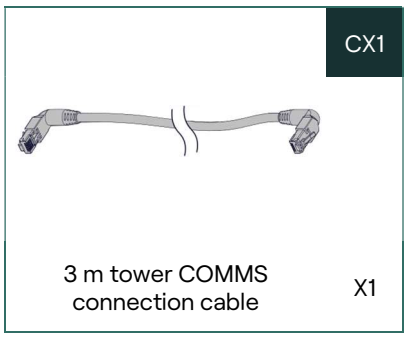
2.4 PARALLEL KIT (110143)





The installer must carry out a connection study and the corresponding kits (110143) must be ordered.

2.5 CONNECTION CABLES (109687)



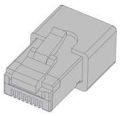
The installer must carry out a connection study and the corresponding cables (109687) must be ordered.

2.6 MASTER UNIT (110051)

CC1

Master X1

CC2



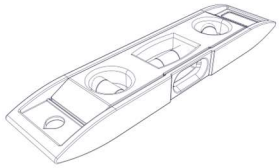
Termination resistor X1

3 NECESSARY TOOLS

T1

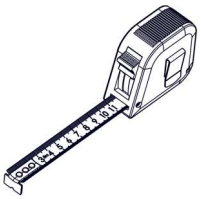
Drill

T2



Spirit level

T3



Tape measure

T4

2 Allen key

T5

10 Spanner

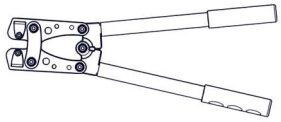
T6

17 Spanner

T7

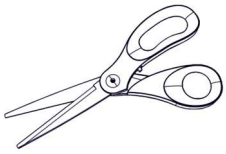
Torx T30 screwdriver

T8



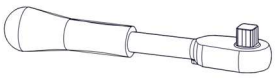
Crimper

T9



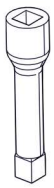
Scissors

T10



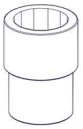
Ratchet

T11



Extender

T12



17 socket

4 INSTALLATION

4.1 BASE INSTALLATION

There are 2 different installation options for the LV EBick Battery System depending on the number of modules to be installed.

1. Towers with 1 or 2 modules

In this case, there are also the following installation possibilities:

- No base.
- Base with feet (code 109286).
- Base with casters (code 109512).

2. Towers with 3 or 4 modules

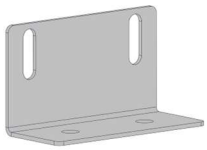
- Base with feet (code 109286).

Towers with 3 or 4 modules must be installed on a base with feet. Under no circumstances can they be installed without a base or on a base with casters.

Installation of the base with feet and the base with casters is shown below.

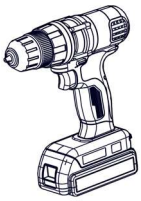
4.1.1 Base with feet (109286)

1



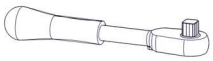
CBP3

Right-angle floor fixing bracket X1



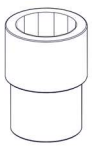
T1

Drill



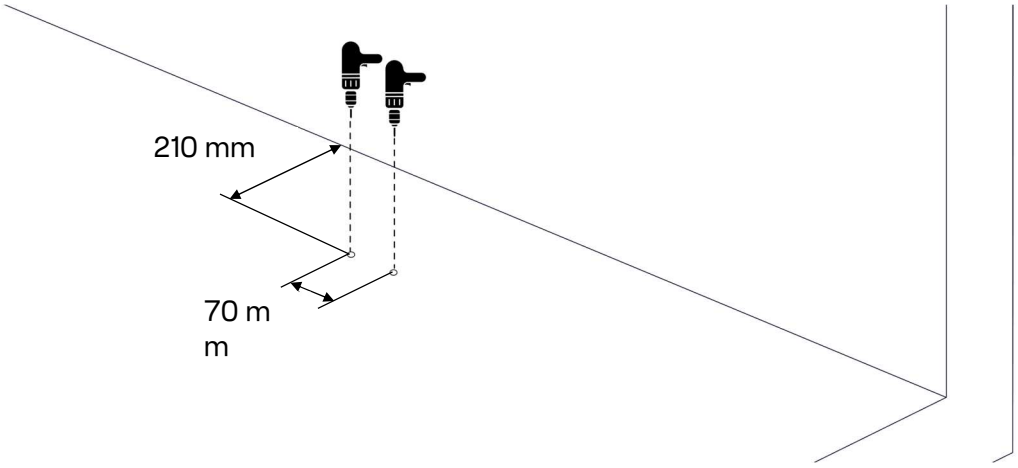
T10

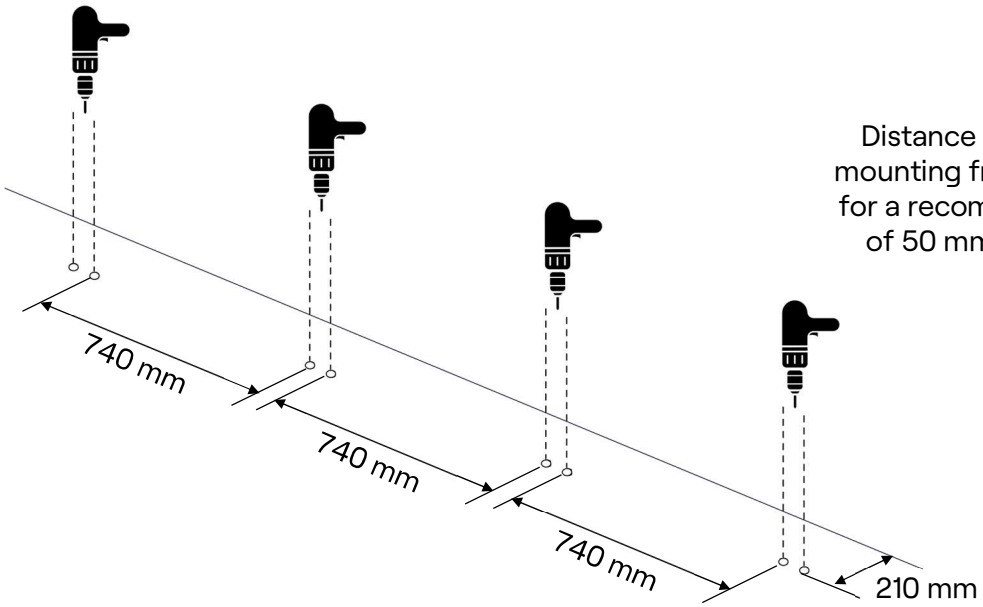
Ratchet



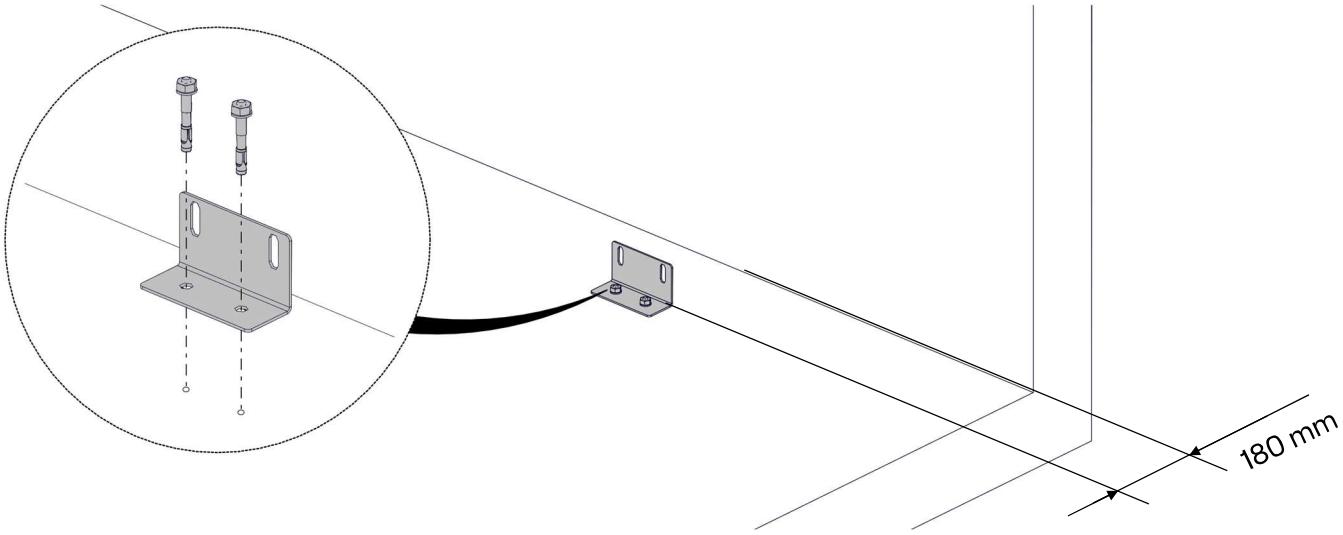
T12

17 socket



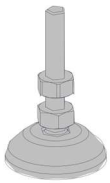


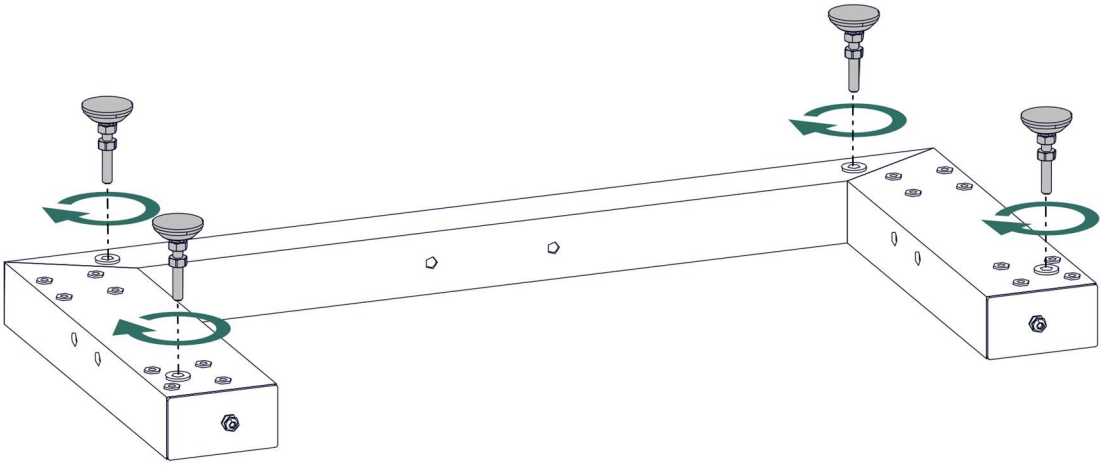
Distance between holes for mounting from 2 to 5 towers, for a recommended distance of 50 mm between towers. (See pg. 26).

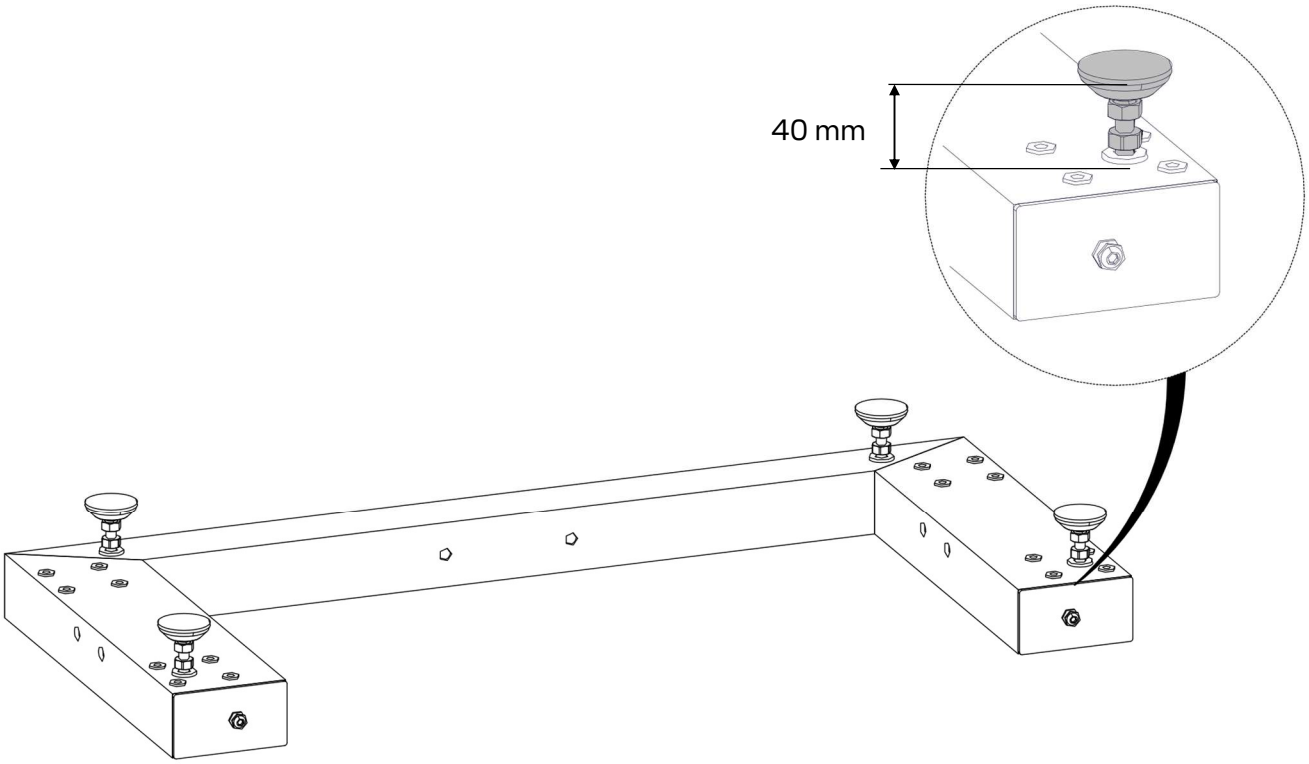


Use of M10 metal expansion bolts is recommended. Not provided by CEGASA.

2

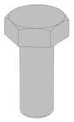
CBP1	CBP7	T6
		
Base X1	Base levelling feet X4	17 Spanner





3

CBP8

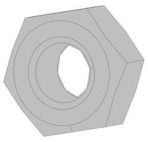


TR DIN 933 M10x30 X2

CBP12

AR DIN 125 M10 X2

CBP16

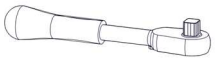


TU DIN 934 M10

CBP15

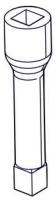
AR DIN 127 M10 X2

T10



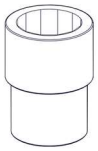
Ratchet

T11



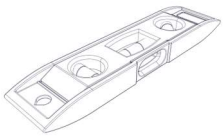
Extender

T12

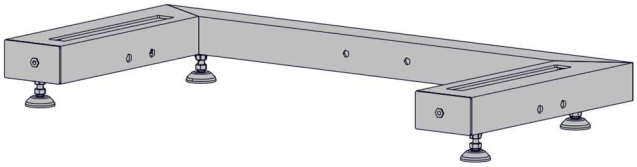


17 socket

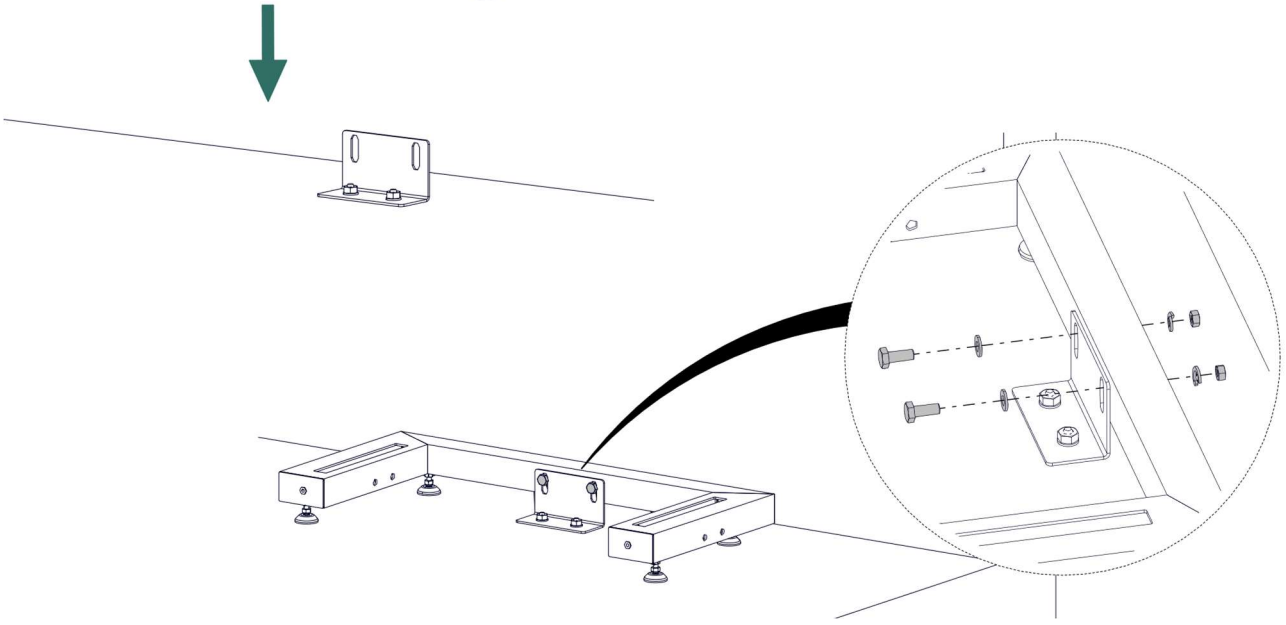
T2



Spirit level

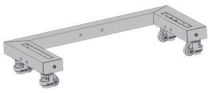


Check the levelling and adjust the height of the feet if necessary.



4.1.2 Base with casters (109512)

1

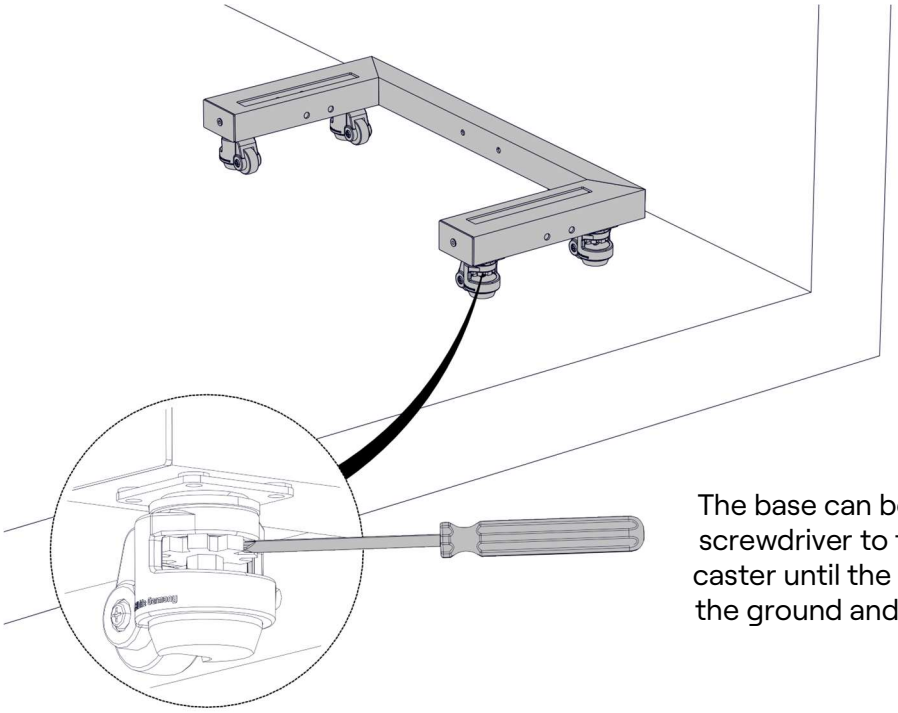


CBR1

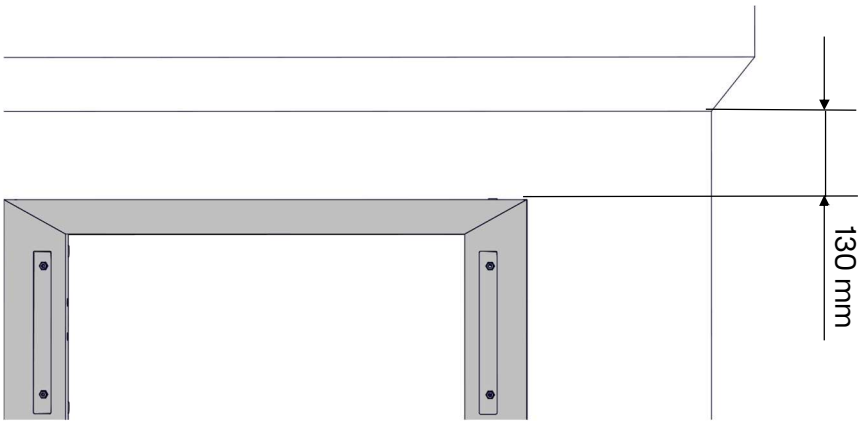
Base + casters X1

T7

Torx T30 screwdriver

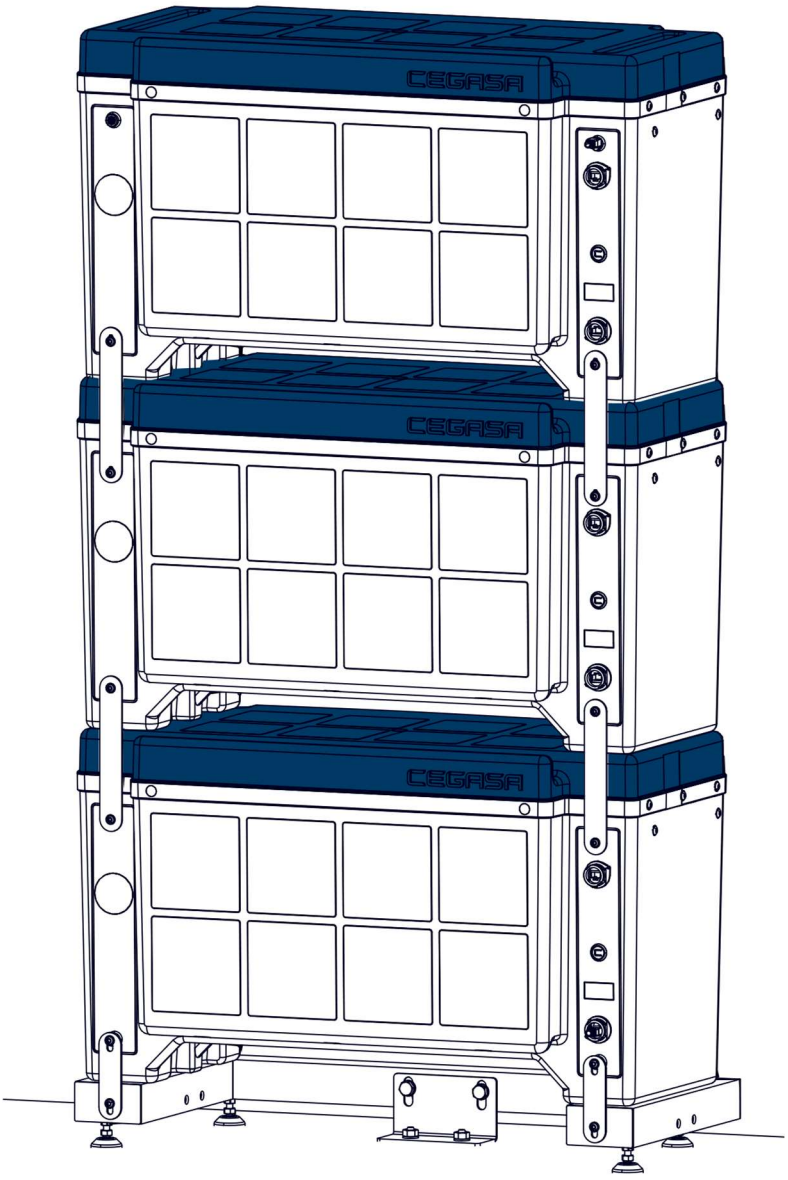


The base can be locked. To do so, use a screwdriver to turn the wheel inside the caster until the brake block is resting on the ground and lifting the caster off the floor.

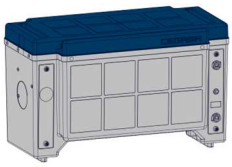


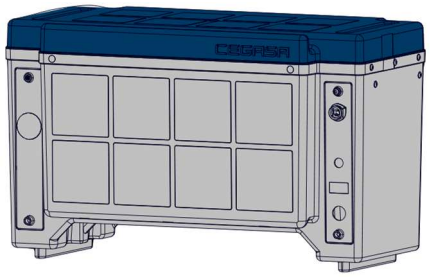
4.2 MECHANICAL INSTALLATION OF THE MODULES

The following installation procedure is based on an LV EBick Battery System consisting of a tower with 3 modules. However, these steps can also be followed to install a Battery System containing between 1 and 20 Modules (distributed in towers with a maximum of 4 towers).

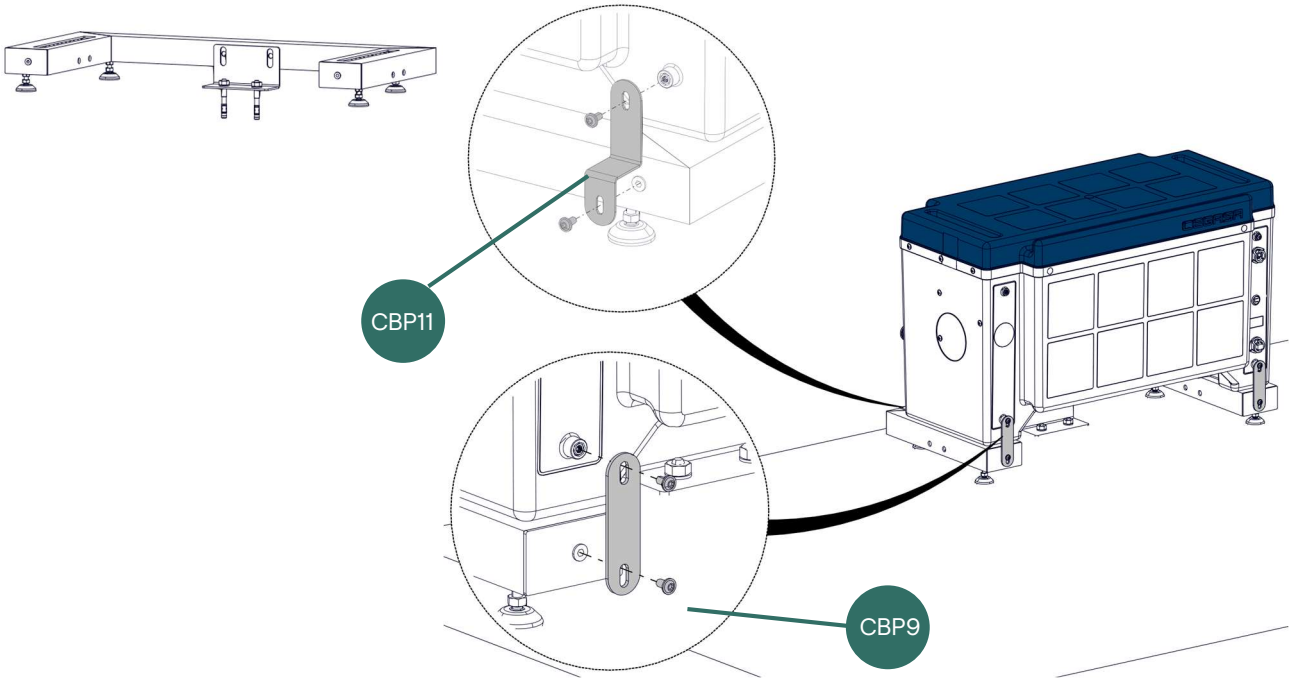


1

CM1 	CBP2 	CBP4 
Module X1	Front base fixing bracket X2	Rear base fixing bracket X2
CBP9 	CB11 	T7 
TR ISO 7380 M6x20 X4	TR ISO 7380 M6x12 X4	Torx T30 screwdriver



Step to be performed by several people.



2

CM1

Module N

CM2

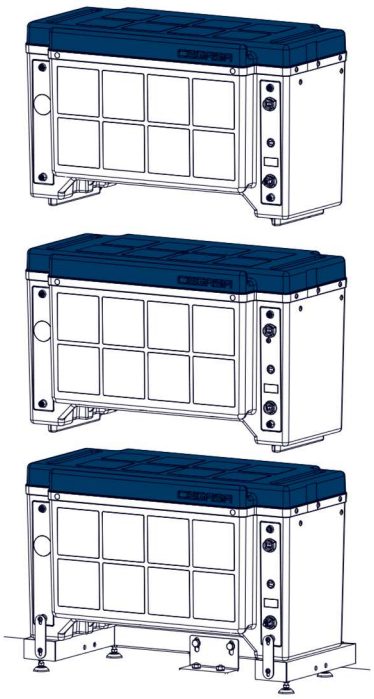
Side connection plate 4XN

T7

Torx T30 screwdriver

CM4

TR ISO 7380 M6x12 8XN

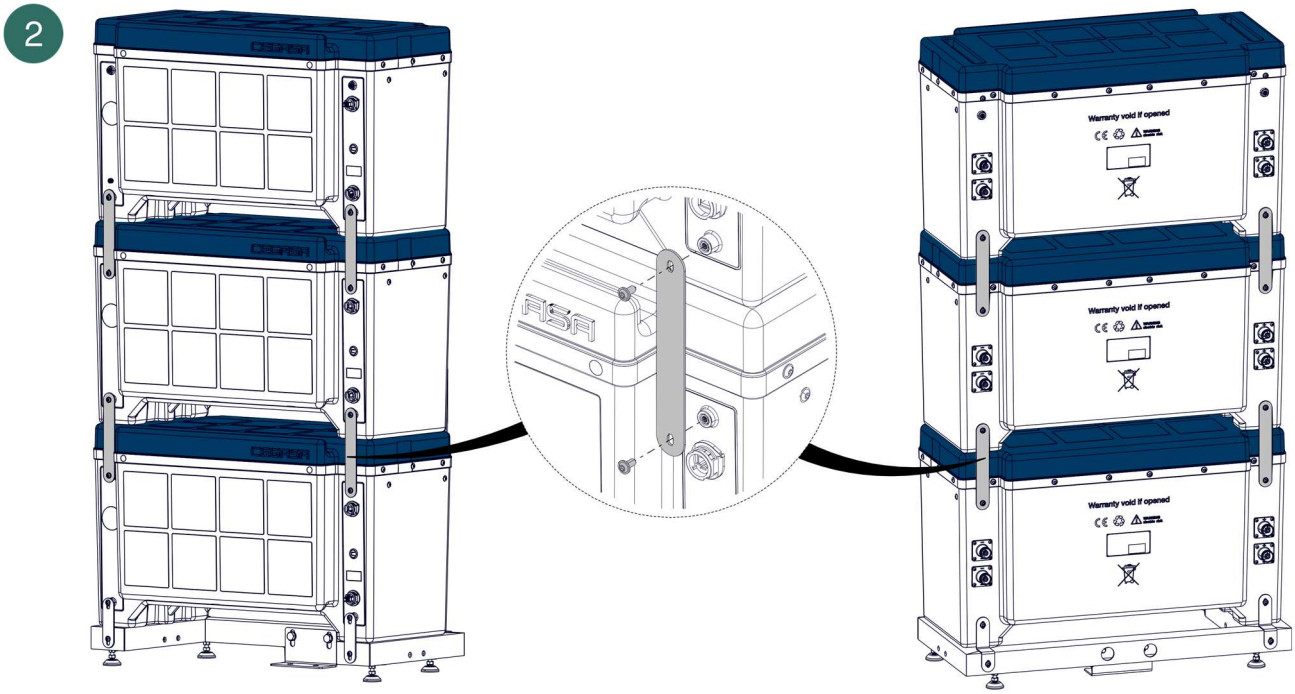


1

Place the desired number of modules from 1 to 4.
The installation is the same as in the lower module.

Step to be performed by several people.

2

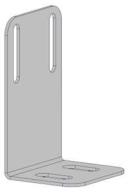


3

CBP5

Module fixing bracket X2

CBP6



Right-angle wall mounting plate X2

CBP10

TR ISO 7380 M6x16 X4

CBP11

TR ISO 7380 M6x12 X2

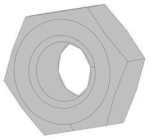
CBP14

AR DIN 125 M6 X4

CBP15

AR DIN 127 M6 X4

CBP17



TU 934 M6 X4

T1

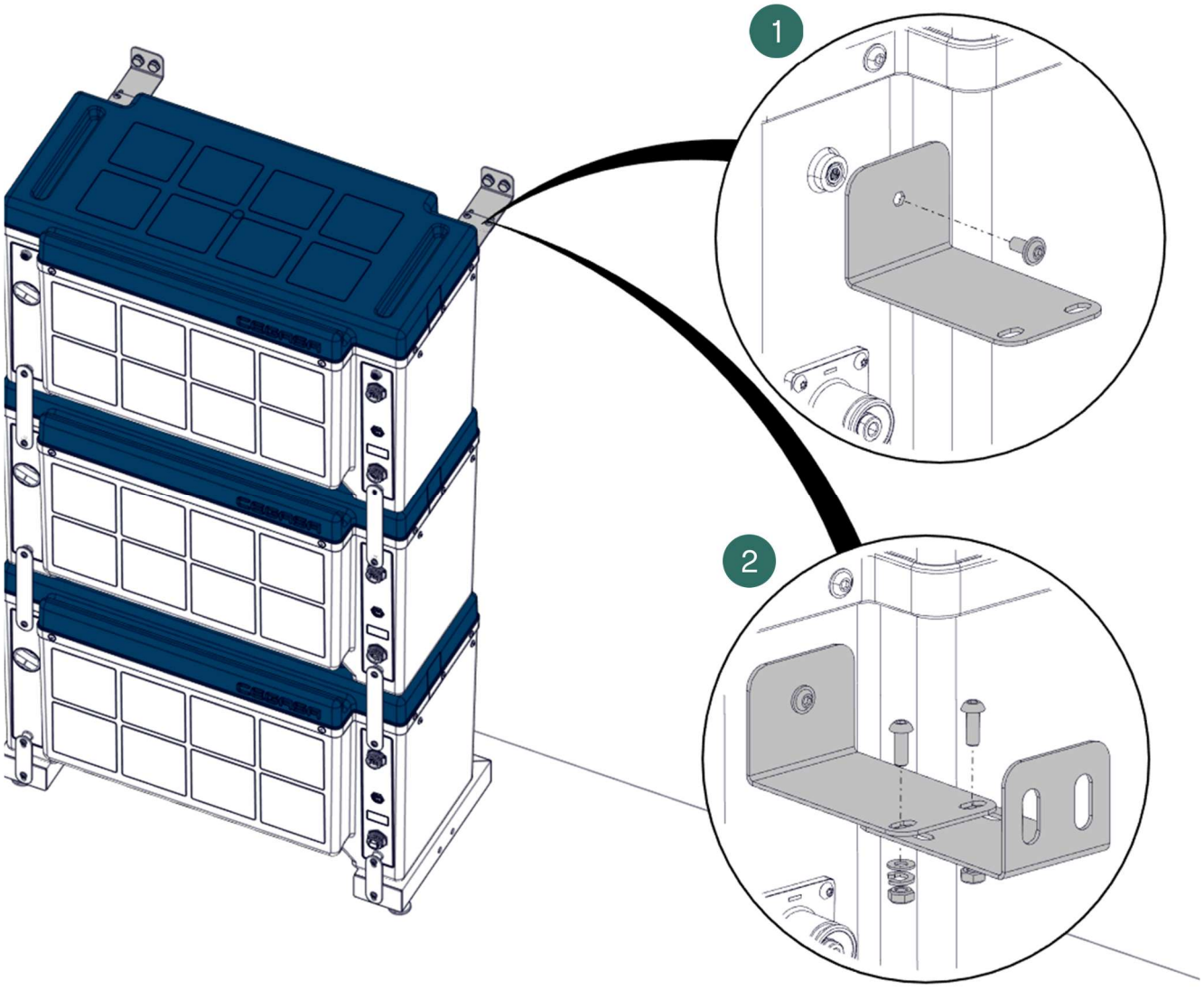
Drill

T5

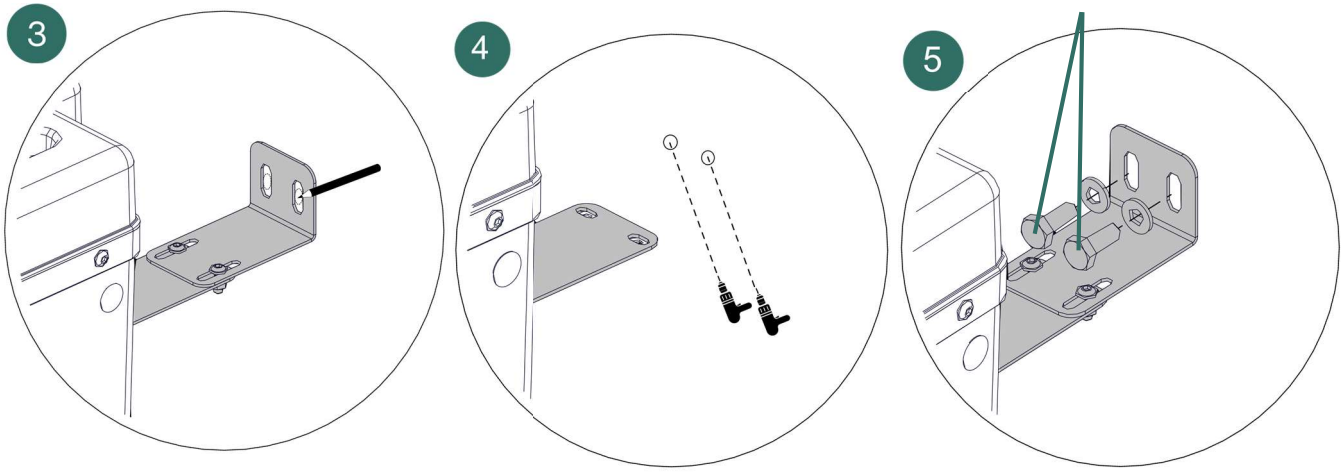
10 Spanner

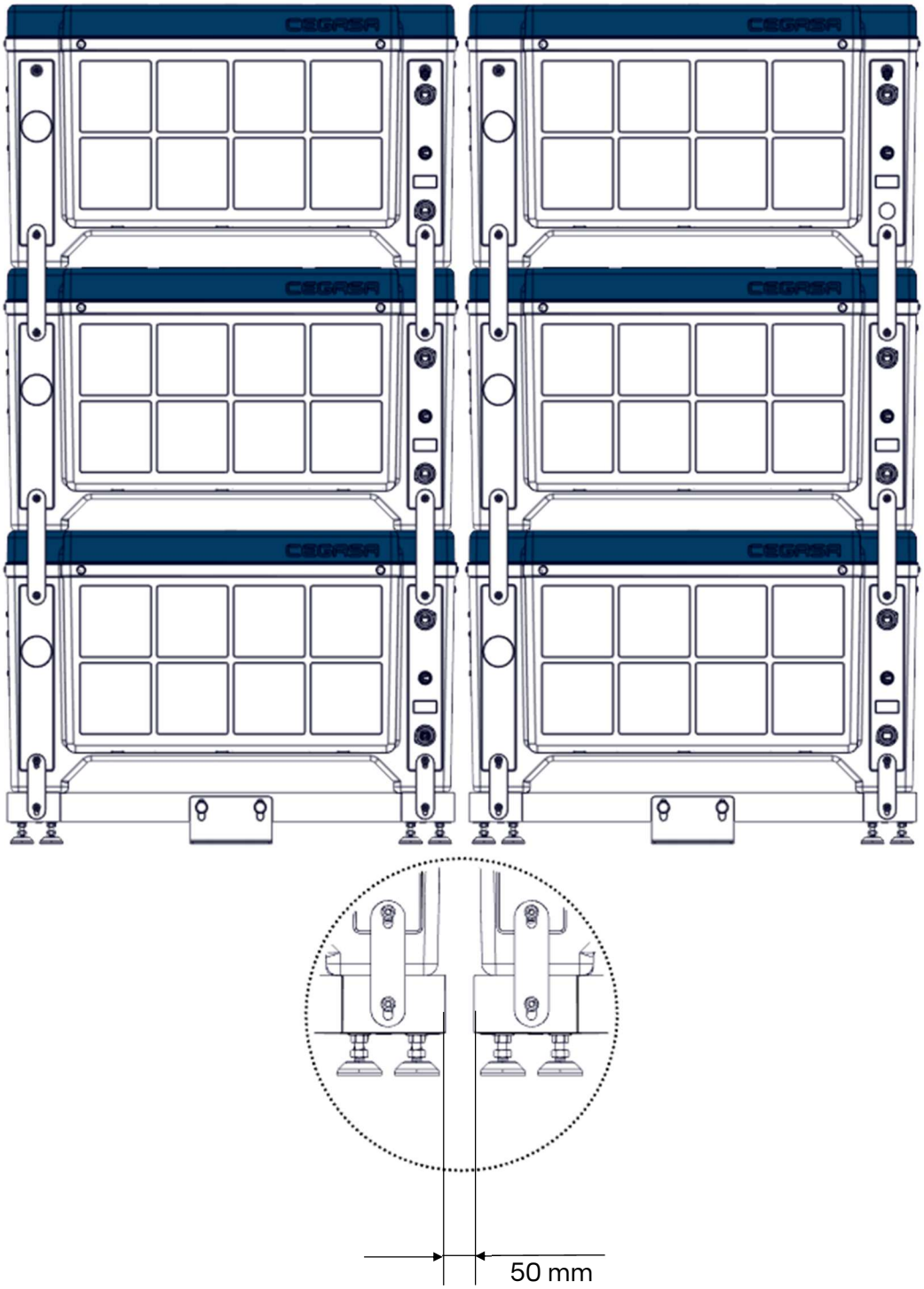
T7

Torx T30 screwdriver



Use of M6x50 lag screws recommended.
The plug is to be selected by the installer.
Not provided by CEGASA.





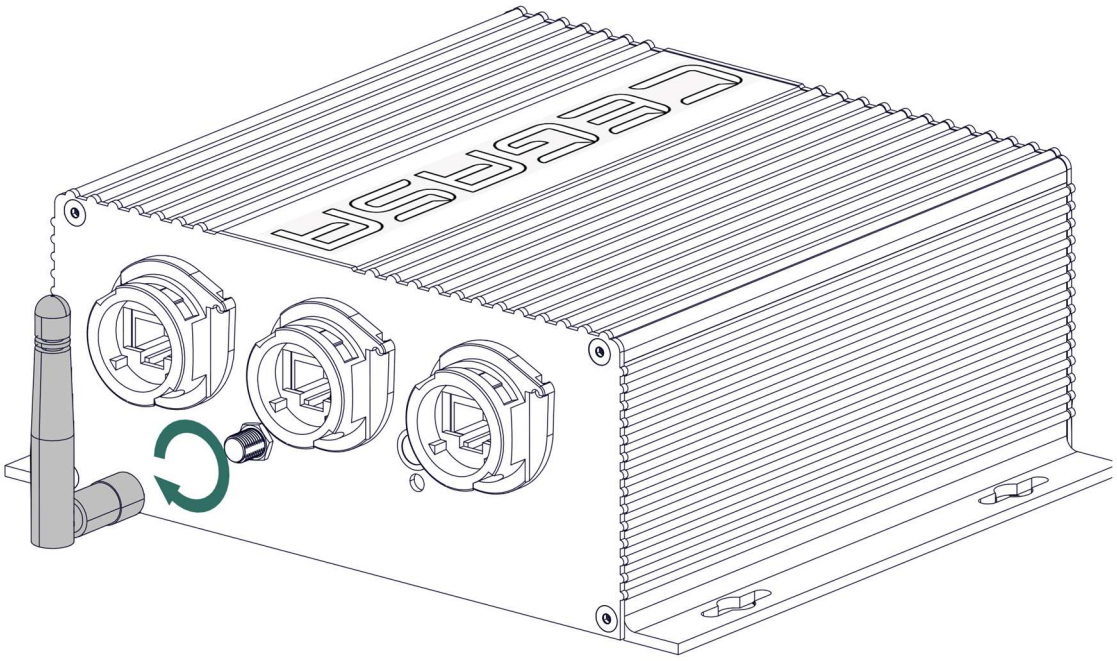
The recommended distance between towers is

4.3 MECHANICAL INSTALLATION OF THE MASTER

1

CC1

Master X1



The Master must be configured before proceeding to Step 2 of this point. See Chapter 6 *"Configuration of the BOX"*.

2

CC1

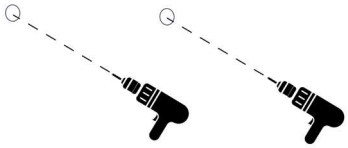
Master X1

T1

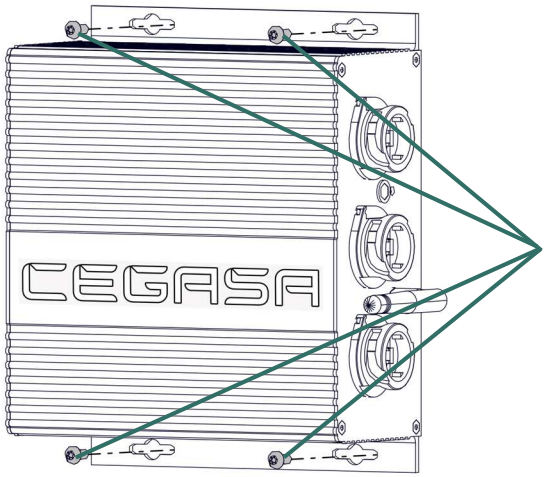
Drill

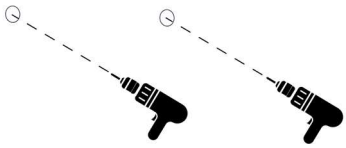
1

2



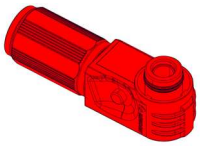
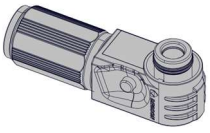
3

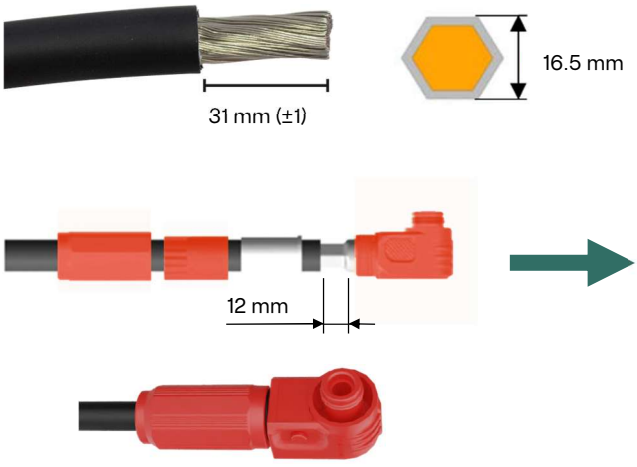


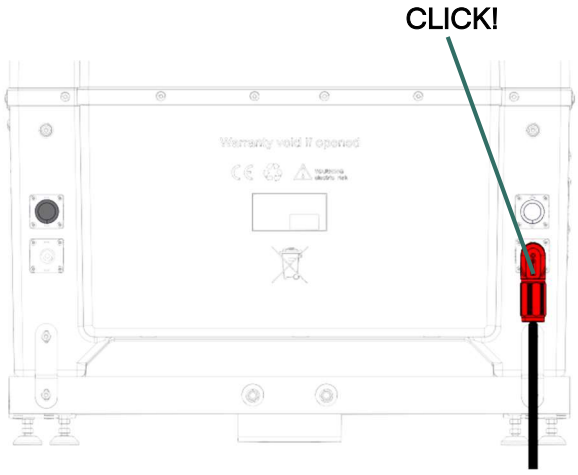


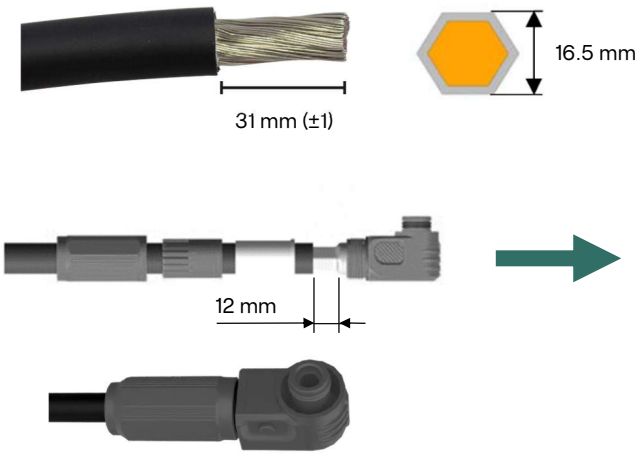
Use of M4x40 lag screws recommended.
The plug is to be selected by the installer.
Not provided by CEGASA.

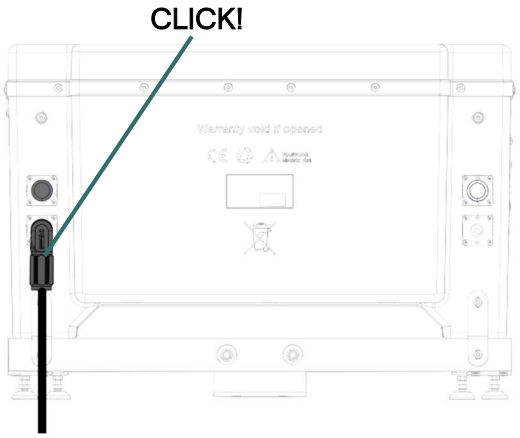
5 CONNECTIONS

CM5		CM6	
			
Positive female module connector	X1	Negative female module connector	X1







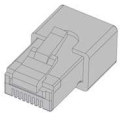


5.1 CONNECTIONS OF A SINGLE-TOWER SYSTEM

There are different options for installing single-tower systems depending on the needs detailed below.

5.1.1 Connections of a system with 1 module:

CC2



Termination resistor X1

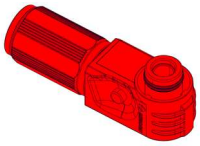
CM7

Negative connector cap X1

CM8

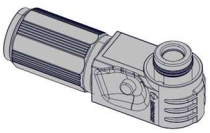
Positive connector cap X1

CM5



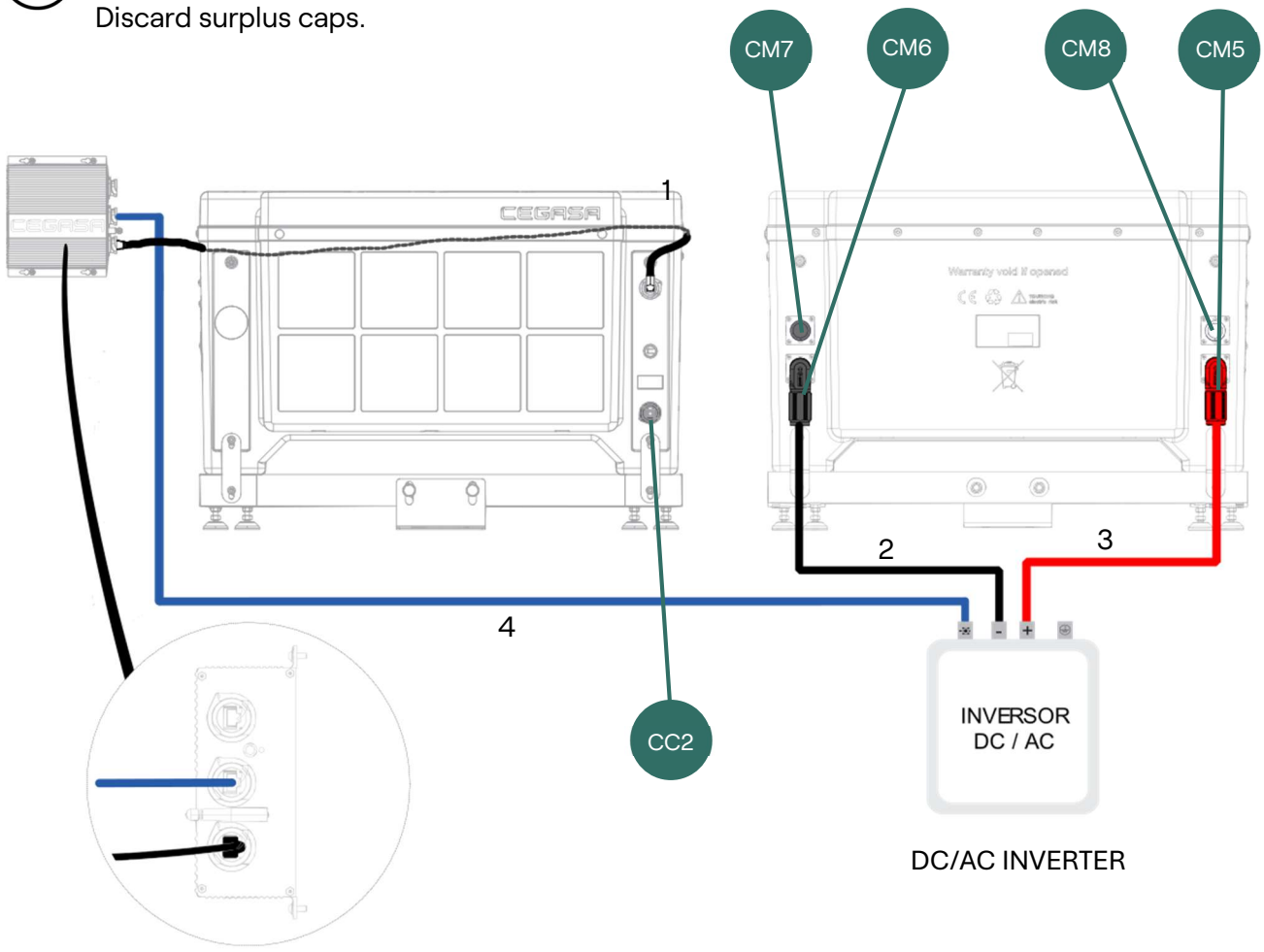
Positive female module connector X1

CM6



Negative female module connector X1

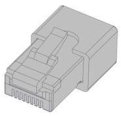
Place caps on any unused power connectors.
Discard surplus caps.



Item	Description	Features
1	COMMS cable to Master BOX MCS (not included)	Cat5e UTP network cable (PARALLEL)
2	Inverter negative cable (not included)	120 mm^2 60 Vdc power cable
3	Inverter positive cable (not included)	120 mm^2 60 Vdc power cable
4	COMMS cable from Master BOX MCS to inverter (not included)	See specifications in the manual of the selected inverter

5.1.2 Connections of systems with **2, 3 or 4 modules/tower** , sized in **ENERGY** *(A single +/- output for each tower):*

CC2



Termination resistor X1

CM3

External CB RJ45 X3

CP1

Negative parallel cable X3

CP2

Positive parallel cable X3

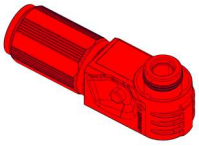
CM7

Negative connector cap X1

CM8

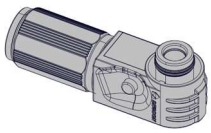
Positive connector cap X1

CM5

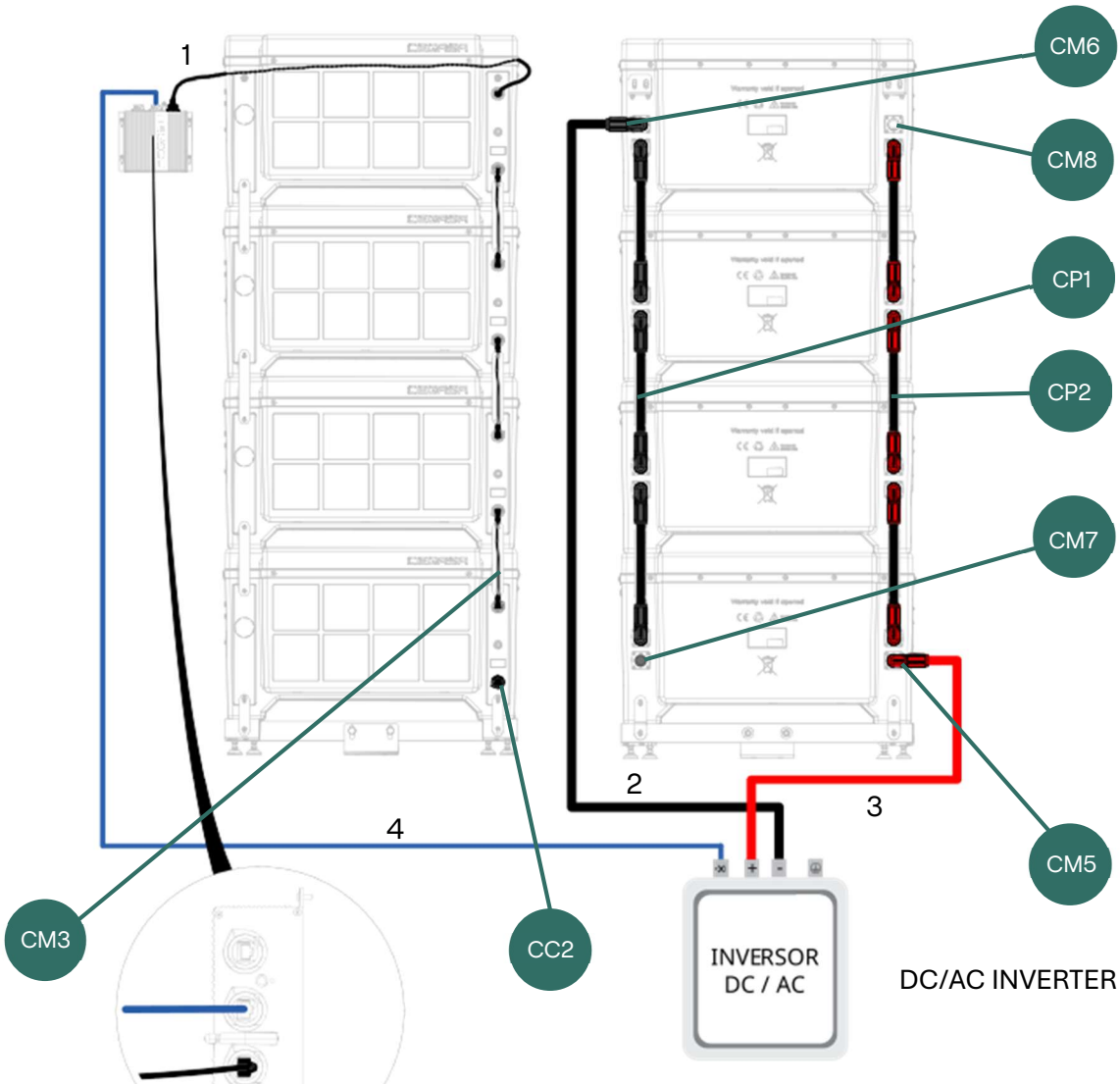


Positive female module connector X1

CM6



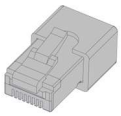
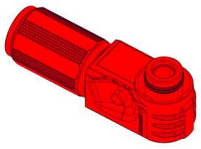
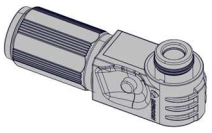
Negative female module connector X1



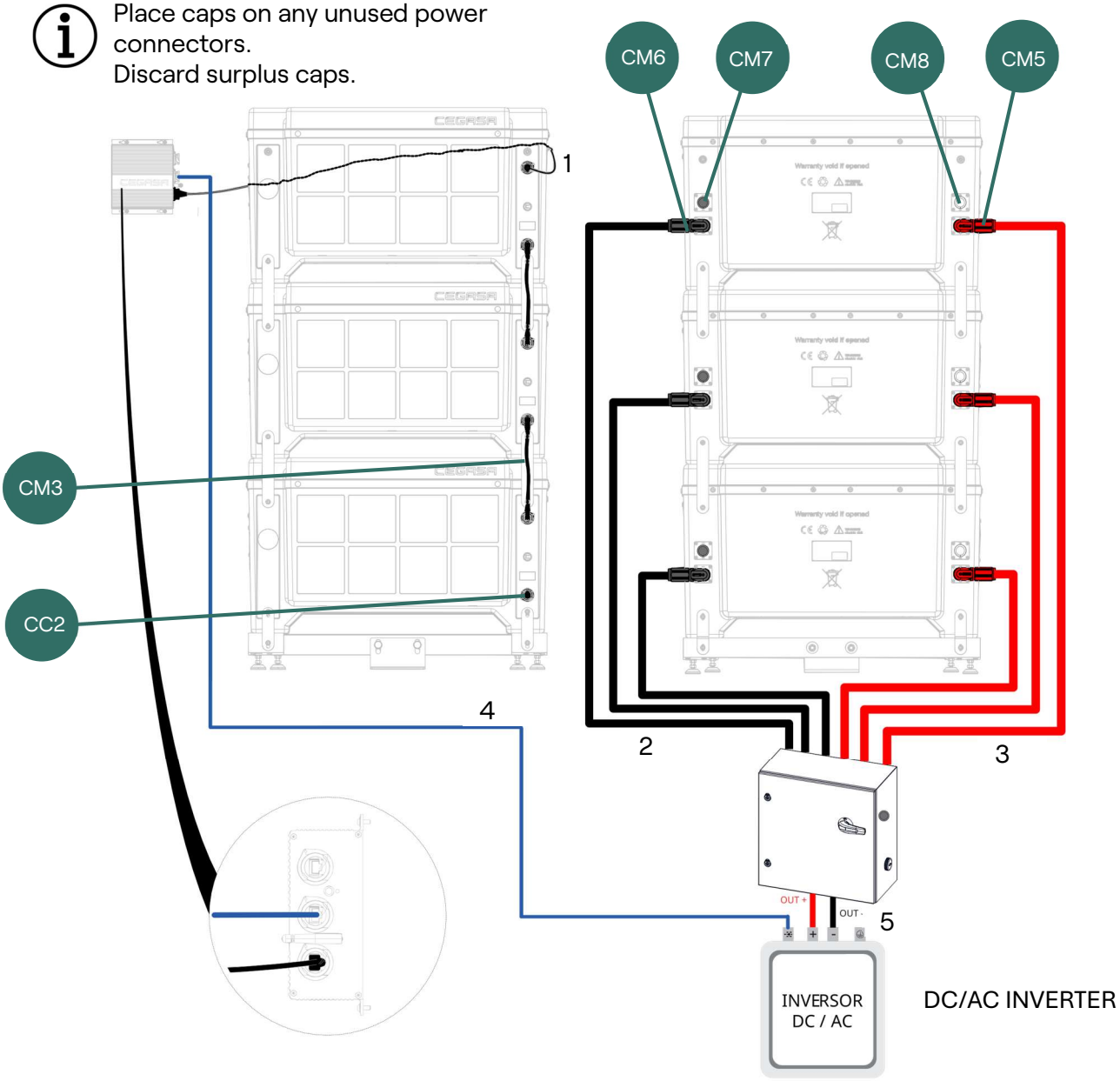
Place caps on any unused power connectors.
Discard surplus caps.

Item	Description	Features
1	COMMS cable to Master BOX MCS (not included)	Cat5e UTP network cable (PARALLEL)
2	Inverter negative cable (not included)	120 mm² 60 Vdc power cable
3	Inverter positive cable (not included)	120 mm² 60 Vdc power cable
4	COMMS cable from Master BOX MCS to inverter (not included)	See specifications in the manual of the selected inverter
CP1	Negative parallel cable	-
CP2	Positive parallel cable	-
CM3	External CB RJ45	-

5.1.3 Connections of systems with **3 modules/tower**, sized in **POWER** *(Several +/- outputs for each tower):*

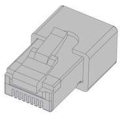
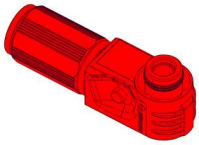
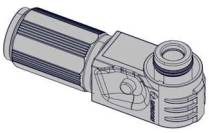
CC2  Termination resistor	X1	
CM3  External CB RJ45	X2	
CM7  Negative connector cap	X3	
CM8  Positive connector cap	X3	
CM5  Positive female module connector	X3	
CM6  Negative female module connector	X3	

Place caps on any unused power connectors.
Discard surplus caps.

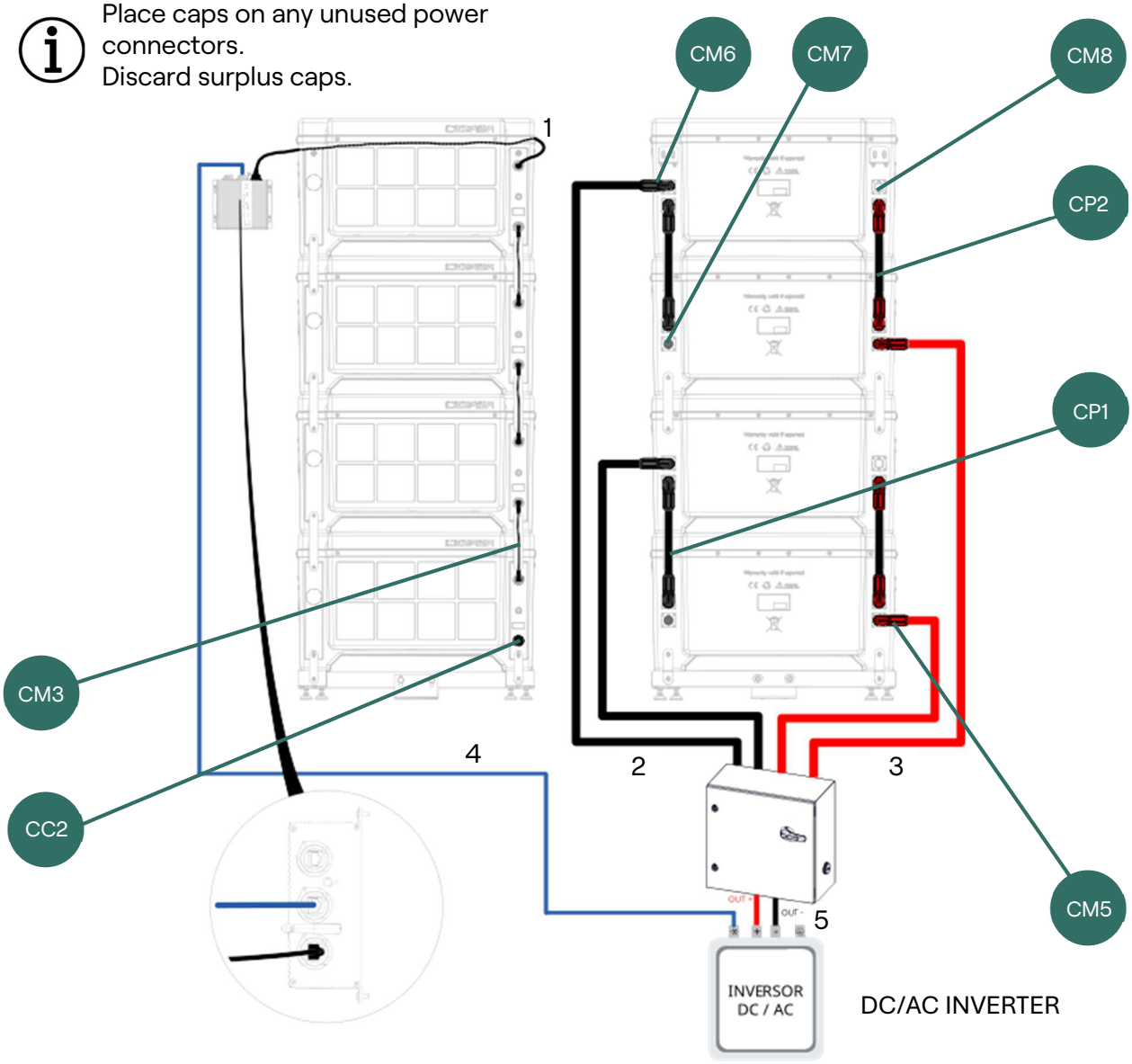


Item	Description	Features
1	COMMS cable to Master BOX MCS (not included)	Cat5e UTP network cable (PARALLEL)
2	Negative cable to PDC (not included)	120 mm^2 60 Vdc power cable
3	Positive cable to PDC (not included)	120 mm^2 60 Vdc power cable
4	COMMS cable from Master BOX MCS to inverter (not included)	See specifications in the manual of the selected inverter
5	Positive and negative cables to Inverter (not included)	Depends on the project (single-phase, three-phase, No. of inverter inputs, etc.)
CM3	External CB RJ45	-

5.1.4 Connections of systems with **4 modules/tower** , sized in **POWER** *(Several +/- outputs for each tower):*

CC2 	Termination resistor	X1
CM3 	External CB RJ45	X3
CP1 	Negative parallel cable	X2
CP2 	Positive parallel cable	X2
CM7 	Negative connector cap	X2
CM8 	Positive connector cap	X2
CM5 	Positive female module connector	X2
CM6 	Negative female module connector	X2

Place caps on any unused power connectors.
Discard surplus caps.



Item	Description	Features
1	COMMS cable to Master BOX MCS (not included)	Cat5e UTP network cable (PARALLEL)
2	Negative cable to PDC (not included)	120 mm^2 60 Vdc power cable
3	Positive cable to PDC (not included)	120 mm^2 60 Vdc power cable
4	COMMS cable from Master BOX MCS to inverter (not included)	See specifications in the manual of the selected inverter
5	Positive and negative cables to Inverter (not included)	Depends on the project (single-phase, three-phase, No. of inverter inputs, etc.)
CP1	Negative parallel cable	-
CP2	Positive parallel cable	-
CM3	External CB RJ45	-

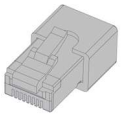
5.2 CONNECTIONS OF A MULTI-TOWER SYSTEM

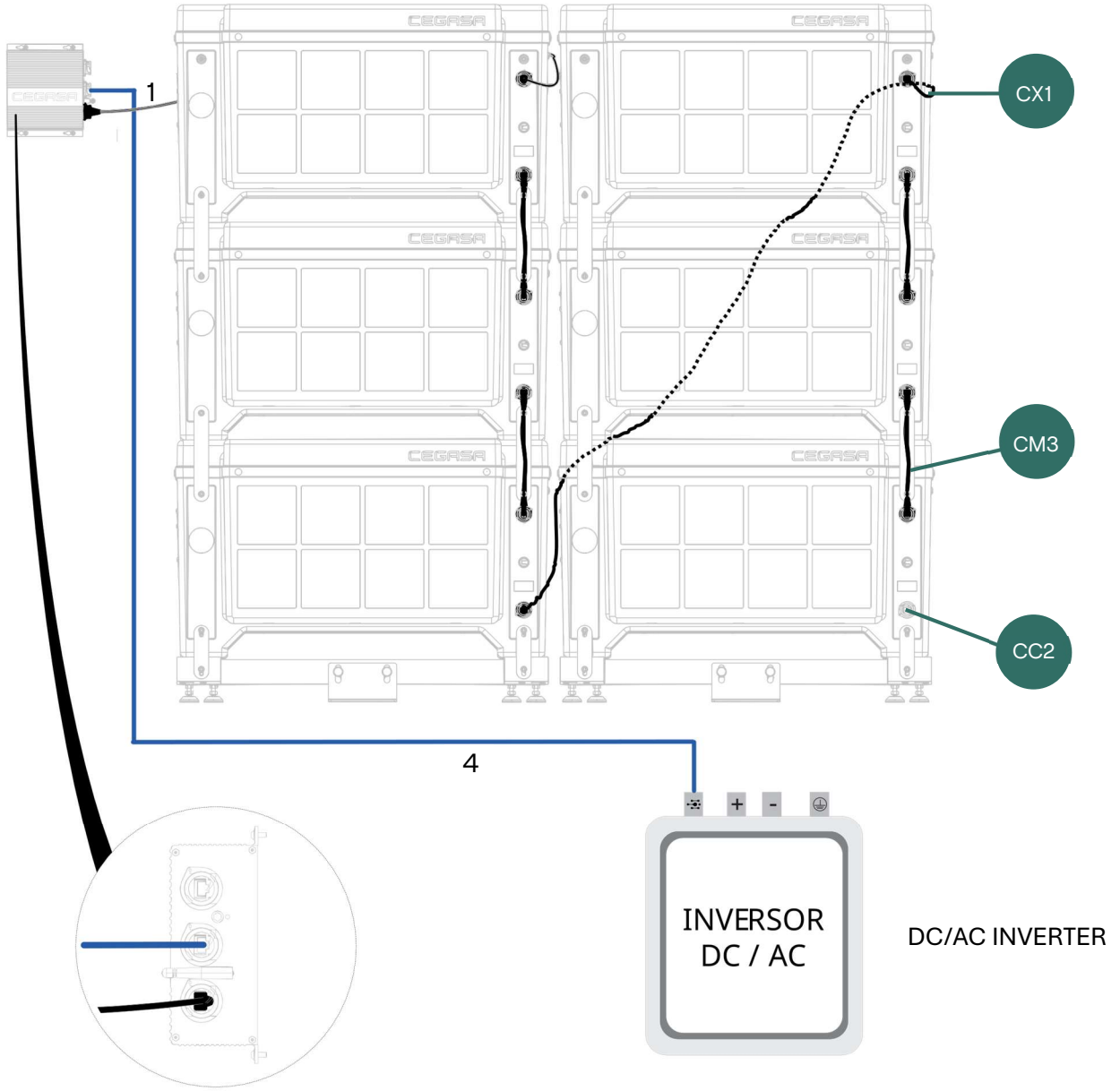
There are different options for installing multi-tower systems depending on the needs.

Below are a couple of representative examples of systems sized for ENERGY with a single output (+/-) for each tower.

5.2.1 Example of connections for 2 towers with 3 Modules each:

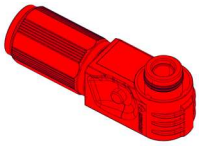
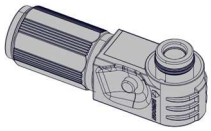
5.2.1.1 **Communications** connections:

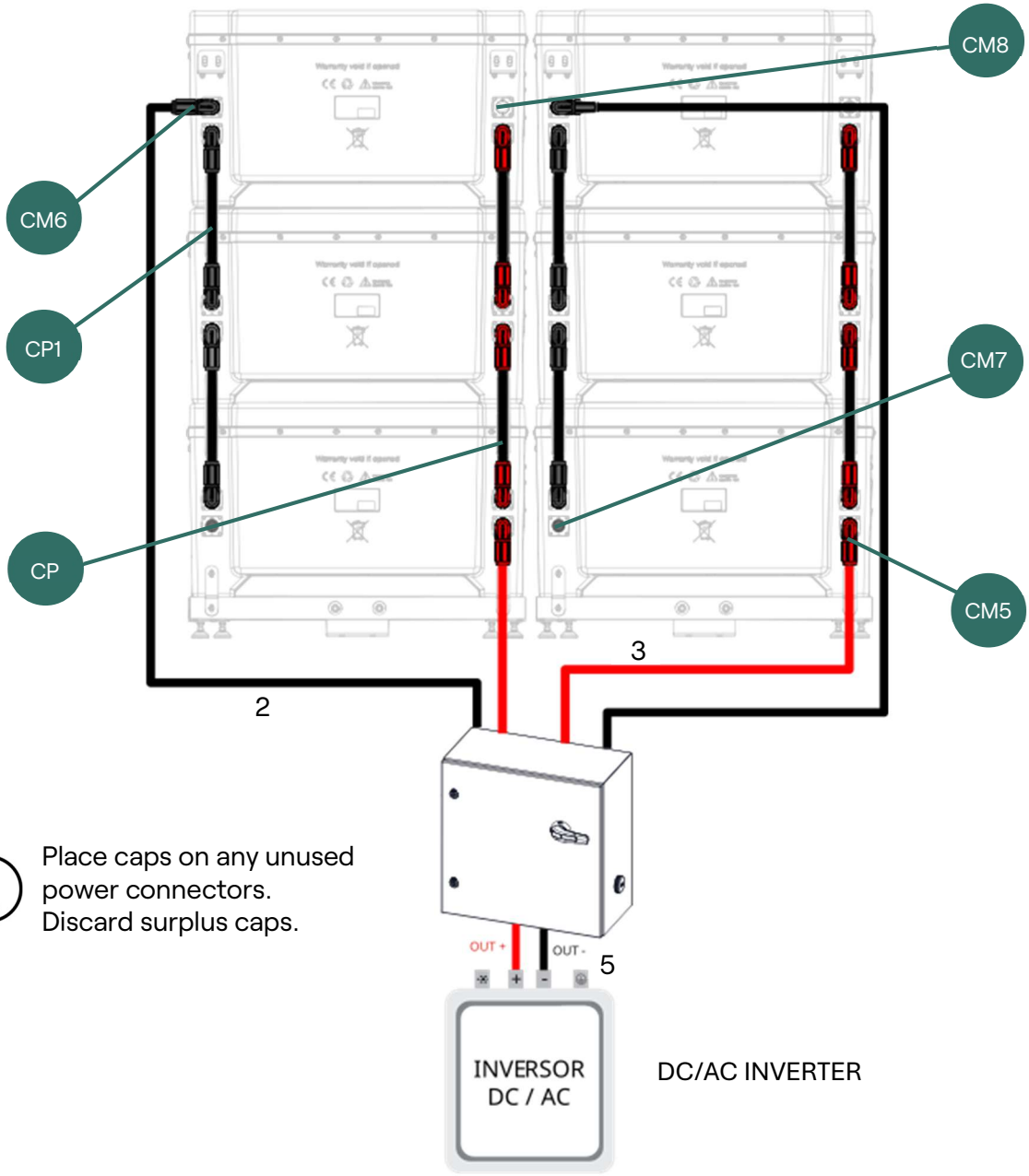
CC2	CM3	CX1
		
Termination resistor X1	External CB RJ45 X4	3 m tower COMMS connection cable X1



Item	Description	Features
1	COMMS cable to Master BOX MCS (not included)	Cat5e UTP network cable (PARALLEL)
4	COMMS cable from Master BOX MCS to inverter (not included)	See specifications in the manual of the selected inverter
CX1	Tower COMMS connection cable	-
CM3	External CB RJ45	-

5.2.1.2 Electrical connections sized for **ENERGY** *(A single +/- output for each tower):*

CP1 	Negative parallel cable	X2	
CP2 	Positive parallel cable	X2	
CM7 	Negative connector cap	X2	
CM8 	Positive connector cap	X2	
CM5 	Positive female module connector	X2	
CM6 	Negative female module connector	X2	

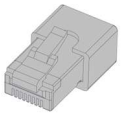


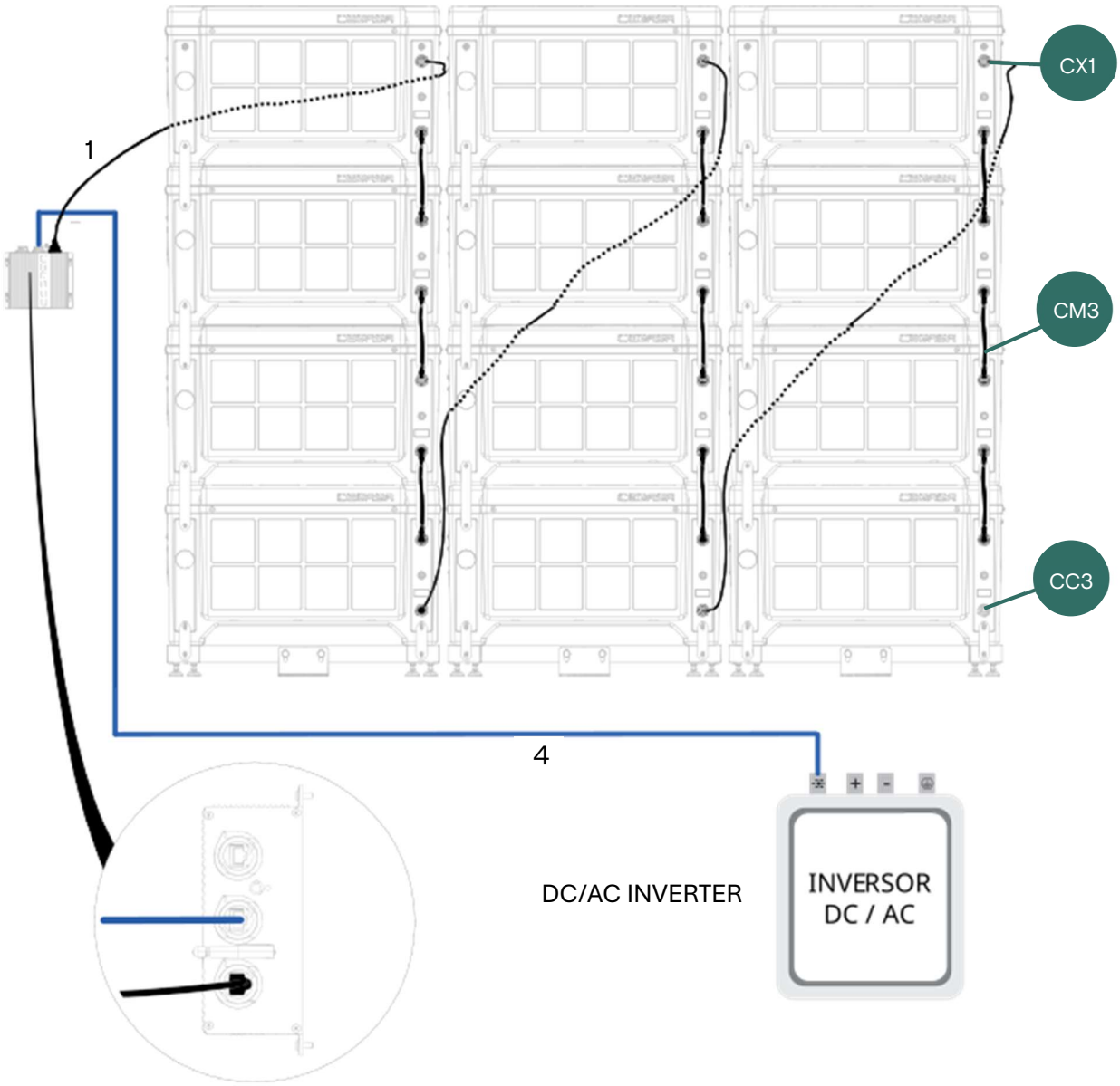
Place caps on any unused power connectors.
Discard surplus caps.

Item	Description	Features
2	Negative cable to PDC (not included)	120 mm^2 60 Vdc power cable
3	Positive cable to PDC (not included)	120 mm^2 60 Vdc power cable
5	Positive and negative cables to Inverter (not included)	Depends on the project (single-phase, three-phase, No. of inverter inputs, etc.)
CP1	Negative parallel cable	-
CP2	Positive parallel cable	-

5.2.2 Example of connections for 3 towers with 4 Modules each:

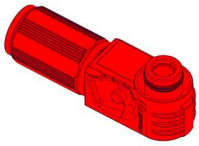
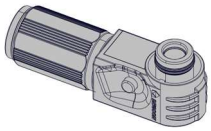
5.2.2.1 Communications connections:

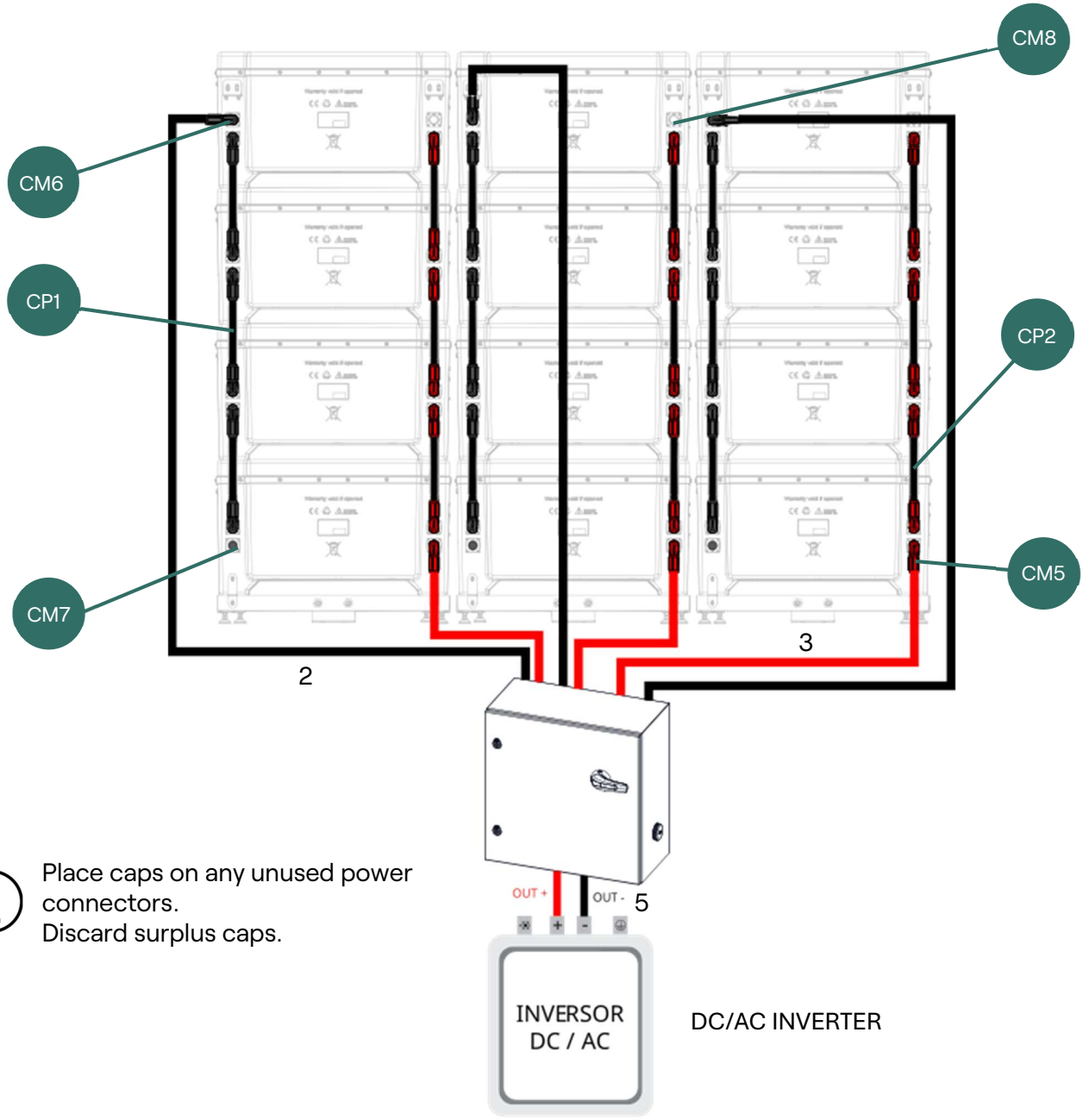
CC2		CM3		CX1	
					
Termination resistor	X1	External CB RJ45	X9	3 m tower COMMS connection cable	X2



Item	Description	Features
1	COMMS cable to Master BOX MCS (not included)	Cat5e UTP network cable (PARALLEL)
4	COMMS cable from Master BOX MCS to inverter (not included)	See specifications in the manual of the selected inverter
CX1	Tower COMMS connection cable	-
CM3	External CB RJ45	-

5.2.2.2 Electrical connections sized for **ENERGY** *(A single +/- output for each tower):*

CP1 	Negative parallel cable	X9	
CP2 	Positive parallel cable	X9	
CM7 	Negative connector cap	X3	
CM8 	Positive connector cap	X3	
CM5 	Positive female module connector	X3	
CM6 	Negative female module connector	X3	



Place caps on any unused power connectors.
Discard surplus caps.

Item	Description	Features
2	Negative cable to PDC (not included)	120 mm² 60 Vdc power cable
3	Positive cable to PDC (not included)	120 mm² 60 Vdc power cable
5	Positive and negative cables to Inverter (not included)	Depends on the project (single-phase, three-phase, No. of inverter inputs, etc.)
CP1	Negative parallel cable	-
CP2	Positive parallel cable	-

6 CONFIGURATION OF THE MASTER BOX MCS UNIT

The unit must be configured according to the communication protocol with the inverter it is going to work with. There are two possibilities depending on the communication protocol with the inverter.

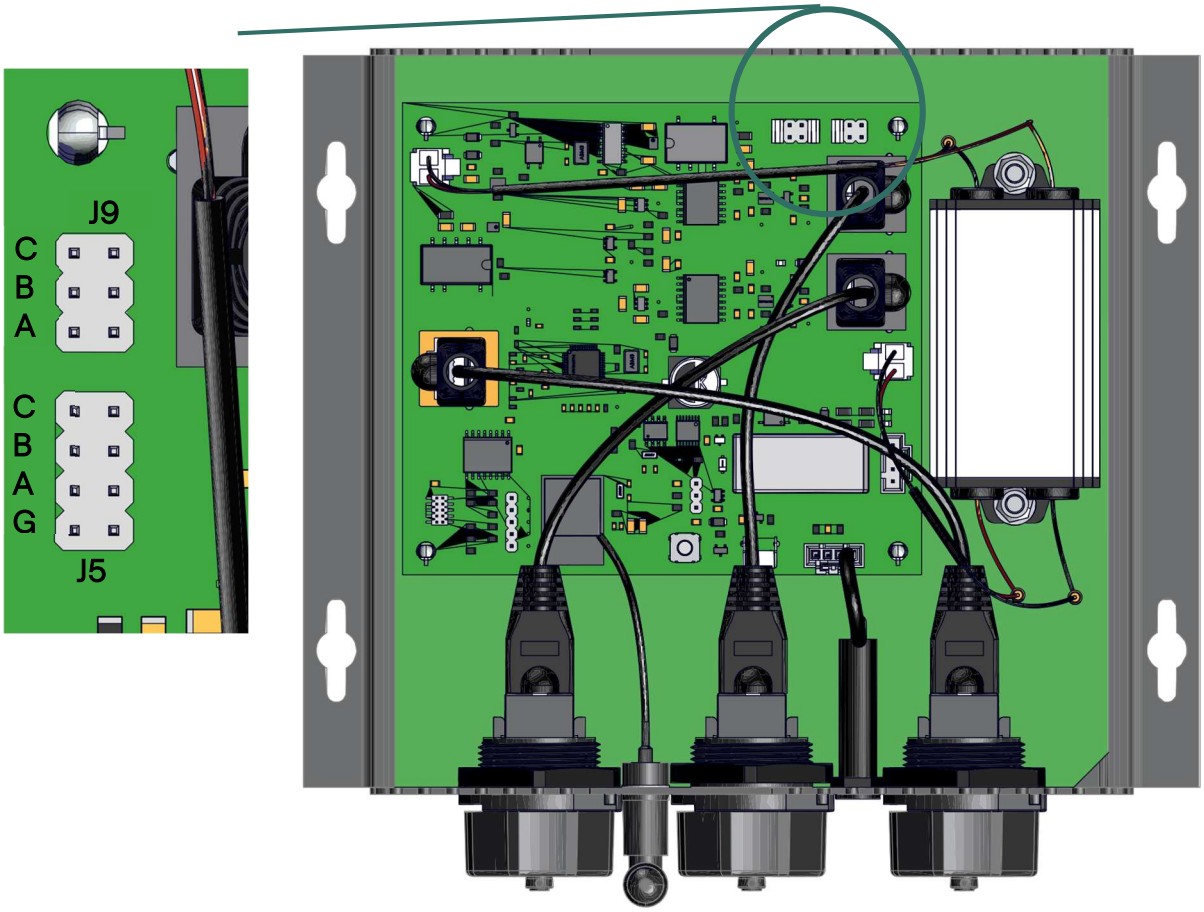
6.1 MODBUS TCP/IP COMMUNICATION PROTOCOL

The factory settings of the unit are valid. No action is required.

6.2 CAN BUS COMMUNICATION PROTOCOL

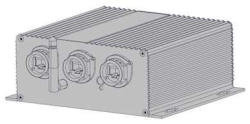
The unit is configured at CEGASA to work using this communication protocol with the following inverters:

- ✓ VICTRON ENERGY



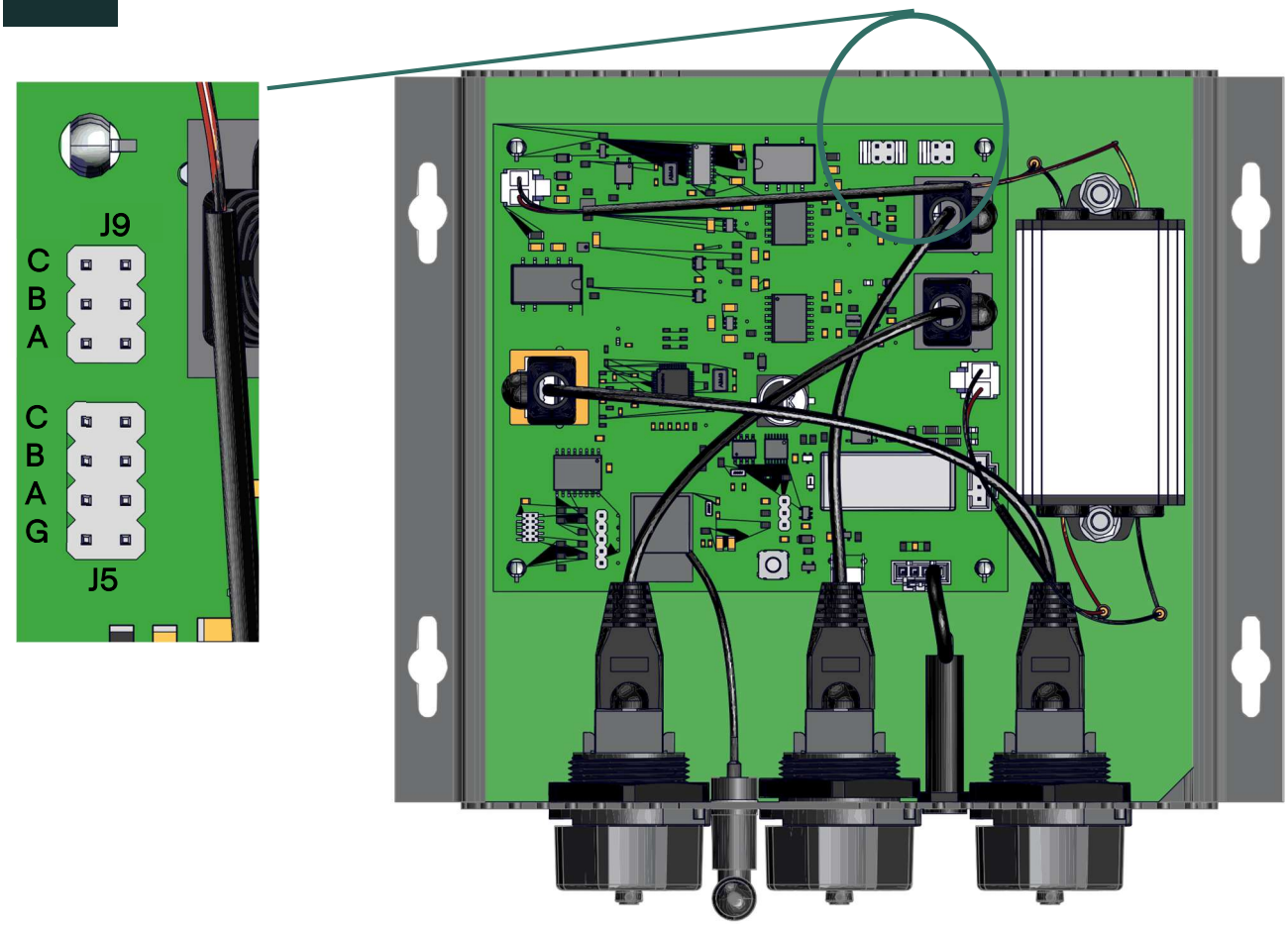
Inverter	J5	J9
Victron Energy	CG	C

With any other inverter in which the communication protocol is via CAN Bus, it will be necessary to modify the “pinout” of the card as follows:

1	CC1	T4
		
	Master X1	2 Allen key

Open the unit by loosening the four top screws and carefully separating the upper cover.

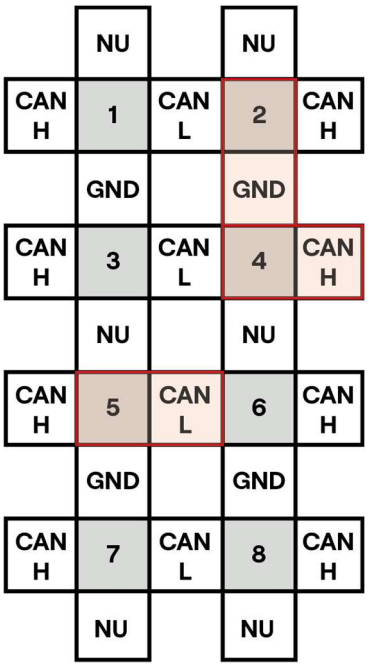
2



Once opened, identify the jumpers on the card and make the necessary changes according to the inverter to be used.

Inverter	J5	J9
SMA / SOLIS / STUDER (*) GOODWE / INGETEAM	GB	B

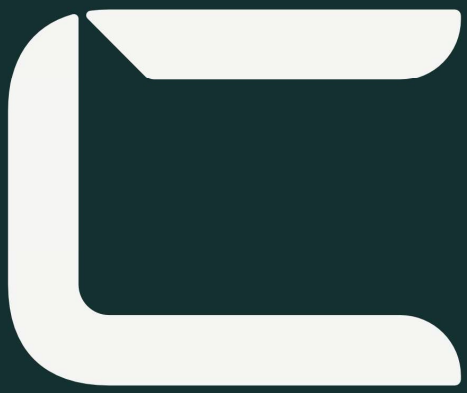
(*) In the case of using an inverter from the brand STUDER, it is necessary for its electronic board to have the following configuration highlighted in red.



Finally, close the unit again doing the first step in this section in reverse.

Then continue with installation in Step 2 (pg. 28).

Energy you can trust



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